

REMARKS

Entry of the foregoing, reexamination and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 1, 3-16, 18, 19 and 21 were pending (claims 6-15 withdrawn). By the present response, claims 1, 4, 5, 16, 18, 19 and 21 have been amended, claims 6-15 canceled, and claims 22 and 23 have been added. Thus, upon entry of the present response, claims 1, 3-5, 16, 18, 19 and 21-23 remain pending and await further consideration on the merits.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims and the specification, paragraph [0018].

Entry of the foregoing is appropriate pursuant to 37 C.F.R. §1.116 for at least the following reasons. First, the amendments address the new grounds of rejection under 35 U.S.C. §112, second paragraph, thereby reducing the number of issues present upon appeal. Second, the amendments raise no new issues that would necessitate further search and/or substantive reexamination. Third, the amendments clearly overcome the grounds of rejection.

ELECTION

The present Amendment cancels non-elected and withdrawn claims 6-15 without prejudice or disclaimer.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

Claims 4-5, 18 and 21 stand rejected under 35 U.S.C. §112, second paragraph on the grounds set forth in paragraph 3 of the Official Action. By the present response, applicants have amended 4, 5, 18 and 21 in a manner which addresses the above-noted rejection. Specifically, these dependent claims now depend from an appropriate independent claim. Reconsideration and withdrawal of the rejection is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 1, 3-5, 16, 18-19 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2002/0015890 to Nakura (hereafter "*Nakura*") and further in view of U.S. Patent Publication No. 2003/0113626 to Maeda et al. (hereafter "*Maeda et al.*") on the grounds set forth in paragraph 7 of the Official Action and claims 1, 3-5, 16, 18-19 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Maeda et al.* in view of *Nakura* on the grounds set forth in paragraph 8 of the Official Action. For at least the reasons noted below, these rejections should be withdrawn.

The present rejections over the disclosures in *Nakura* and *Maeda et al.* are improper because a *prima facie* case of obviousness has not been established. In order to establish a case of *prima facie* obviousness, three basic criteria must be met: first, there must be some suggestion or motivation to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art references must teach or suggest all of the claim limitations. See MPEP §§2142-2143. Here, a *prima facie* case of obviousness has

not been established because at least the third element has not been met, e.g., the prior art references do not teach all of the claim limitations.

Applicants' independent claims 1, 16 and 19 recite, *inter alia*, that a lithium/transition metal pnictide phase is depicted by formula (I): $\text{Li}_x\text{M}_y\text{Pn}_4$ wherein Pn represents a pnictogene element selected from the group consisting of P, As, and Sb (claim 1), P or As (claims 16 and 19).

Neither of the references cited in the Official Action as the basis for the obviousness rejection disclose material having the formula $\text{Li}_x\text{M}_y\text{Pn}_4$ with Pn being P, As or Sb as recited in the present claims.

Nakura discloses negative electrodes comprising nitrides as represented by $\text{Li}_x\text{A}_y\text{Me}_z\text{N}$. See, e.g., paragraphs [0012] and [0016]. Disclosed positive electrodes are lithium-containing transition metal oxides. See, e.g., paragraph [0034].

Maeda et al. discloses an active material for use in lithium secondary batteries. Examples of negative electrode materials include lithium nitride metal compounds represented by $\text{Li}_x\text{M}_y\text{N}_z$ and composite metal oxides represented by $\text{A}_x\text{N}_y\text{O}_p$. See, paragraph [0060]. Examples of positive electrode materials include composite metal oxides represented by $\text{A}_x\text{N}_y\text{N}_z\text{O}_p$. See, paragraph [0061].

From the above, applicants respectfully assert that the disclosures in *Nakura* and *Maeda et al.*, alone or in combination, do not disclose, teach, or suggest applicants' claimed lithium/transition pnictide phase. Rather, each of these disclosures includes a nitride and/or an oxide for the electrode material. For at least this reason, the rejection has failed to establish a *prima facie* case of obviousness and should be withdrawn. See MPEP §§2142-2143.

In addition to the above, applicants respectfully note that the presently pending claims of the application are not obvious over the disclosures in the cited documents. Both of the cited documents disclose the use of pnictides only in the form of nitrides. The documents do not teach, disclose, or suggest the use of P, As, or Sb instead of N nor do they disclose, teach or suggest that the use of such alternative elements may lead to equivalent or improved properties.

In contrast, examples in the instant application use of pnictides other than nitrogen, especially P, As or Sb as materials for electrodes having improved properties in comparison with electrodes using nitrides. The enhancement of the properties of the electrodes is especially unexpected in view of the teachings of the cited documents. Accordingly, the disclosed and claimed subject matter is not obvious in view of the disclosures in *Nakura* and *Maeda et al.* and withdrawal of the rejections is respectfully requested for at least this additional reason.

The remaining pending claims in this application depend either directly or indirectly from independent claims 1, 16 and 19. Accordingly, the present rejection of these dependent claims is also improper based on the disclosures in *Nakura* and *Maeda et al.* for at least the same reasons as noted above with respect to the independent claims. Accordingly, withdrawal of these rejections is respectfully requested.

NEW CLAIMS

New claims 22 and 23 have been added directed to additional features and combinations contained in applicants' disclosure. These dependent claims

distinguish over the cited references for at least the same reasons as discussed above with respect to the appropriate independent claim.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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